Amendments to the Claims:

Claims 1-10 (cancelled)

Claim 11 (Original): A method of producing a flexible insulation blanket having a ceramic matrix composite infiltrated layer with a smooth surface, said method comprising:

layering, respectively, an outer ceramic fabric layer, a batting layer, and a inner ceramic fabric layer;

quilting said layers to form a flexible insulation blanket;

infiltrating said outer fabric layer of said blanket with a monazite based pre-ceramic slurry;

compressing the blanket in the direction of thickness of the blanket by applying pressure to said outer layer of the blanket with a smoothly surfaced plate;

curing said pre-ceramic slurry; and

sintering the infiltrated outer ceramic layer to form a ceramic matrix composite layer.

Claim 12 (Original): The method of Claim 11, wherein the outer ceramic fabric layer is comprised of multiple plies of fabric.

Claim 13 (Currently amended): The method of Claim 11, wherein the outer ceramic fabric layer ~~fiber~~ is selected from aluminoborosilicate, alumina, and mullite ~~and silicon carbide~~.

Claim 14 (Original): The method of Claim 13, wherein the outer ceramic fabric layer is woven from an aluminoborosilicate fiber.

Claim 15 (Original): The method of Claim 11, wherein the outer ceramic fabric layer has a thickness of about 0.01 inches to 0.06 inches.

Claim 16 (Original): The method of Claim 11, wherein the batting is composed of ceramic selected from alumina, silica, mullite, zirconia, or a combination thereof.

Claim 17 (Original): The method of Claim 11, wherein the inner ceramic fiber layer is woven from fibers selected from aluminoborosilicate, alumina, and mullite, S-glass, and E-glass.

Claim 18 (Original): The method of Claim 11, wherein the pre-ceramic slurry is infiltrated within the outer fabric layer of the blanket by soaking the fabric within the slurry.

Claim 19 (Original): The method of Claim 11, wherein the pre-ceramic slurry is infiltrated within the outer fabric layer of the blanket by applying the slurry by brushing, spraying, or sponging.

Claim 20 (Original): The method of Claim 11, wherein the pre-ceramic slurry is a suspension of

15-45% solids, and

the remainder water,

wherein the solids are composed of 60-100% monazite particulates and 0-40% SiC particulates.

Claim 21 (Original): The method of Claim 11, wherein said slurry has a ceramic component and a solvent component, and wherein the method further comprises the step of allowing the solvent component of the pre-ceramic slurry to evaporate, resulting in a slurry with a paste-like consistency, prior to compression of the blanket.

Claim 22 (Original): The method of Claim 11, further comprising the step of applying a releasing agent to the outer surface of the infiltrated fabric layer prior to compressing the blanket.

Claim 23 (Original): The method of Claim 11, wherein the step of curing the pre-ceramic slurry occurs between about 300°F and about 500°F.

Claim 24 (Original): The method of Claim 23, wherein the step of curing occurs at about 350°F.

Claim 25 (Original): The method of Claim 11, wherein the step of sintering the ceramic matrix occurs at between about 1800°F and 2400°F for a time period of about 15 minutes to 5 hours.

Claim 26 (Original): The method of Claim 25, wherein the step of sintering occurs at a temperature about 2200°F for about 1 hour.

Claim 27 (Original): The method of Claim 11, further comprising the step of turning the edges of the fabric layer toward the inner surface of the blanket such that the edges of the outer fabric layer cover at least a portion of the edge of the blanket.

Claim 28 (Original): The method of Claim 11, further comprising releasing said compression between said curing and sintering steps.

Claim 29 (Original): A method of constructing a ceramic matrix composite (CMC) infiltrated flexible insulation blanket having a smooth surface, comprising:

laminating an outer ceramic fabric layer, a batting layer, and a inner ceramic fabric layer;

sewing the laminate to form a quilted blanket having an outer surface corresponding to the outer fabric layer and an inner surface corresponding to the inner fabric layer;

applying an uncured monazite based ceramic matrix material to the outer surface of the blanket;

placing the blanket under pressure in the direction of thickness of the blanket;

curing said ceramic matrix material to form a CMC layer with the outer fabric layer of the blanket;

releasing said pressure; and

sintering the CMC layer of the blanket.

Claim 30 (Original): The method of claim 11, wherein the step of sintering the infiltrated outer ceramic layer is accomplished using radiant heat directed mainly at the surface of the outer layer of the blanket.